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New Reared Species of Tetrastichus. (Hymenoptera: Chalcidoidea)

By B. D. BURKS, Illinois Natural History Survey

In the course of his study of some gall-inhabiting insects, Mr. S. E. Lienk, at the Department of Entomology, University of Illinois, reared three species of the chalcidoid genus *Tetrastichus*. Two of these species proved to be new to science and are here described. These descriptions are uniform with the descriptions in my synopsis of the North American species.[1]

Tetrastichus anthophilus, new species (Figs. 1, 3)

Shining, jet black, with a very faint iridescent blue-green cast when viewed under strong light; antennal pedicel and funicle and middle part of hind tibiae, brown; middle part of mid-tibiae light brown; apices of all femora, front tibiae, bases and apices of middle and hind tibiae, and basal three segments of all tarsi, yellow. Head, body, and legs provided with sparse, yellowish pubescence; hair borne by compound eyes extremely minute and sparse, fig. 1.

Female. Length 1.1–1.8 mm. Maximum width of head equal to maximum width of pronotum; antennae inserted at level of ventral margins of compound eyes; apex of scape reaching level of ventral margin of anterior ocellus; antenna, fig. 3, with scape slightly longer than pedicel and first funicle segment combined, first funicle segment slightly longer than pedicel, second funicle segment three-fourths as long as first, third slightly shorter than second, club as long as first and second funicle segments combined; height of compound eye one and one-half times

[1] BURKS, B. D. 1943. The North American wasps of the genus Tetrastichus. Proc. U. S. Nat. Mus. 93: 505–608, 6 pls.

as great as length of malar space; postocellar line twice as long as ocellocular line. Mesopraescutum having maximum width and maximum length equal, one row of bristles present at each lateral margin; surface of mesopraescutum with minute but distinct shagreening; median, longitudinal furrow well marked; submarginal vein of forewing with three or four dorsal bristles, marginal vein three and one-half times as long as stigmal; apex of hindwing blunt, fringe at posterior margin one-fourth as wide as wing at hamuli; mesoscutellum bearing two pairs of bristles. Surface of propodeum very faintly reticulated, almost entirely smooth, paraspiracular carinae absent, spiracles almost touching anterior margin of propodeum; length of mesoscutellum two and one-half times as great as median length of propodeum; maximum width of gaster slightly less than that of thorax, gaster one and one-third to one and one-half times as long as thorax; surface of gaster very faintly sculptured, almost smooth, and clothed with a few sparse setae; gaster acute at apex, ovipositor slightly produced.

Male. Length 1.5 mm. Antennal scape with anterior carina present only on apical fourth; pedicel and first funicle segment equal in length, second funicle one-fifth longer than first, third and fourth equal in length and each one-sixth longer than second; club as long as second to fourth funicle segments combined; funicle segments enlarged at bases, these enlargements bearing long bristles; gaster and thorax equal in length.

Holotype, ♀.—Mahomet, Illinois, reared October 31, 1946, from gall of *Rhopalomyia anthophila* O. S. in inflorescence of *Solidago,* S. E. Lienk.

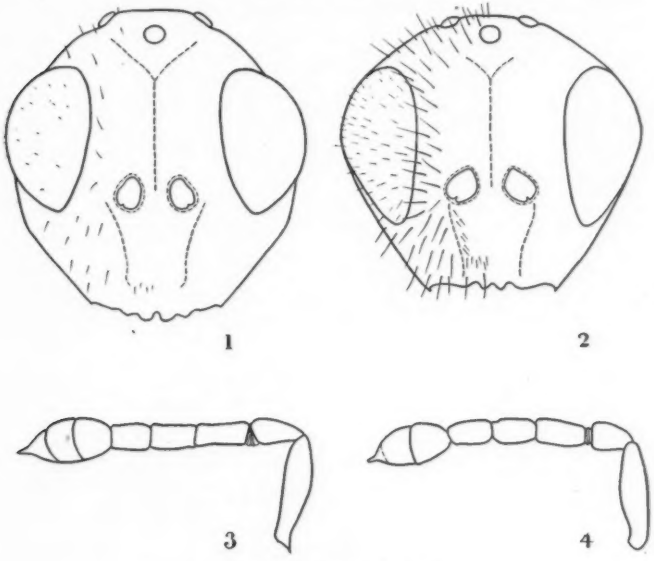
Allotype, ♂.—Same data as for holotype.

Paratypes.—Same data as for holotype, 15 ♀; same, September 21, 1946, 1 ♀; September 24, 2 ♀; September 28, 7 ♀.

Holotype, allotype, and 23 ♀ paratypes deposited in the Illinois Natural History Survey collection; 2 ♀ paratypes deposited in the U. S. National Museum.

This species runs to *T. silvaticus* Gahan in my synopsis because the first funicle segment of the antenna is slightly longer than the second, the marginal vein of the forewing is three and

one-half times as long as the stigmal vein, the propodeum possesses a nearly smooth surface, with the paraspiracular carinae wanting, and the spiracles almost touch the anterior propodeal margin. The two differ in that *T. silvaticus* never shows iridescent colored reflections, while *anthophilus* is faintly iridescent;



EXPLANATION OF PLATE

1. *Tetrastichus anthophilus,* anterior aspect of ♀ head. 2. *T. hesperius,* anterior aspect of ♀ head. 3. *T. anthophilus,* lateral aspect of ♀ antenna. 4. *T. hesperius,* lateral aspect of ♀ antenna.

in *silvaticus* the length of the malar space is one-half as great as the height of the compound eye, while the length of the malar space in *anthophilus* is two-thirds as great as the height of the compound eye; the first funicle segment of the antenna is shorter than the pedicel in *silvaticus,* while it is slightly longer than the pedicel in *anthophilus;* and the second and third funicle segments are equal in length in *silvaticus,* but the third is shorter than the second in *anthophilus.*

Tetrastichus hesperius, new species (Figs. 2, 4)

Jet black, non-iridescent; antennae brown, yellowish toward apex of club; trochanters, apices of femora, bases and apices of tibiae, and basal segments of tarsi, very light yellowish-brown; basal part of femora black; middle part of tibiae and apical segment of each tarsus, dark brown. Head, body, and appendages clothed with relatively-long, erect, silvery bristles and hairs; hair borne by compound eyes relatively long, fig. 2.

Female. Length 1.4–1.8 mm. Maximum width of head one and one-half times as great as width of pronotum; antennae inserted dorsad of ventral margins of compound eyes, but ventrad of center of frons, fig. 2; scape short, its apex reaching only to level of ventral margin of anterior ocellus; antenna, fig. 4, with scape only one-seventh longer than pedicel and first funicle segment combined; pedicel one-eighth shorter than first funicle segment, second and third funicle segments equal in length and each as long as pedicel, club twice as long as third funicle segment; height of compound eye twice as great as length of malar space; ocellocular and postocellar lines equal in length, or ocellocular line very slightly the longer. Mesopraescutum with maximum length slightly greater than maximum width, one row of bristles present at each lateral margin; surface of mesopraescutum very lightly shagreened, almost smooth; median longitudinal furrow only faintly indicated, obsolescent; submarginal vein of forewing with four to six dorsal bristles, marginal vein three times as long as stigmal; apex of hindwing blunt, fringe at posterior margin one-third as wide as wing at hamuli; mesoscutellum bearing three pairs of bristles. Surface of propodeum lightly shagreened, paraspiracular carinae absent; spiracles contiguous with anterior margin of propodeum; median length of propodeum one-third as great as length of mesoscutellum; gaster short, compact, its length only slightly greater than that of thorax, and maximum widths of thorax and gaster equal; all of gaster but median dorso-basal area clothed with relatively long, dense, silvery pubescence; asetose area polished, setose area lightly shagreened; gaster relatively blunt at apex, ovipositor not produced.

Male. Length 1.3–1.7 mm. Antenna having scape with darkened anterior carina extending almost its entire length; pedicel one-fourth longer than first funicle segment, second funicle one-third longer than first, third and fourth equal in length and each one-sixth longer than second; club as long as third and fourth funicle segments combined; funicle segments enlarged at bases and these enlargements bearing long bristles; gaster and thorax equal in length.

Holotype, ♀.—West Frankfort, Illinois, reared May 27, 1946, from gall of *Diplolepis ignota* (Osten Sacken), on *Rosa carolina,* S. E. Lienk.

Allotype, ♂.—Same data as for holotype.

Paratypes.—Same data as for holotype, 7 ♀, 5 ♂; same, May 21, 1946, 1 ♀; May 25, 1 ♀; May 26, 7 ♀, 1 ♂; May 31, 1 ♀; June 1, 8 ♀; June 3, 1 ♂.

Holotype, allotype, and 23 ♀ and 5 ♂ paratypes deposited in the Illinois Natural History Survey collection; 2 ♀ and 2 ♂ paratypes deposited in the U. S. National Museum.

This species runs to *Tetrastichus tesserus* Burks in having the head wider than the pronotum, the antennae inserted dorsad of the level of the ventral margins of the compound eyes, and the postocellar and ocellocular lines nearly or quite equal in length. The two species differ as follows: in *hesperius* the antennal scape extends only to the level of the ventral margin of the anterior ocellus, while the scape exceeds the level of the vertex in *tesserus; hesperius* lacks the characteristic scale-like reticulated surface of the thorax, possessed by *tesserus;* in *hesperius* the mesopraescutum is elongate and narrow, while it is compact and semiquadrate in *tesserus;* and in *tesserus* the gaster is twice as long as the thorax, while the gaster and thorax are equal in length in *hesperius.* It should be noted that *hesperius* also shows some similarity to *T. varicornis* (Girault), although the antennae seem to be quite different in the two. *T. varicornis* is, however, at present known only from a single mutilated specimen; the antennae are preserved on a microscope slide and might have become distorted when the slide mount was prepared. The remains of the type of *varicornis* are in the U. S. National Museum.

Two New Elateridae (Coleoptera)

By Joseph N. Knull, The Ohio State University *

Genitalia of the following species have been mounted on slides in balsam and drawn from dorsal surface. Type material in writer's collection.

Dalopius allegheniensis n. sp. Fig. 1.

Male. Narrow, elongate, shining, dark brown, apical margin and hind angles of pronotum, mouth parts, apex of last abdominal segment and legs lighter brown; pubescence moderate.

Head densely, finely punctate; antennae extending over two segments beyond hind angles of pronotum when laid along side, scape stout, second and third segments about equal in length, fourth nearly as long as second and third united, fifth to tenth inclusive decreasing in length, last segment slightly longer than tenth.

Pronotum longer than wide, widest at basal angles, constricted at apex; sides expanded back of apex, constricted back of middle, hind angles divergent; lateral margin continuous, its junction with anterior margin external to that of prosternal suture; disk moderately convex, slight trace of median depression, hind angles strongly carinate; surface densely finely punctured, punctures more numerous along sides and at base. Scutellum elongate, minutely punctate.

Elytra with sides subparallel on basal half, gradually converging back of middle, apices truncate, surface with fine, oval, nearly contiguous punctures forming striae, interspaces minutely punctate.

Length of aedeagus 1.5 mm.

Length, 8.3 mm.; width, 2.1 mm.

Variations.—Umbone in some specimens light brown in color.

Holotype male labeled Renova, Pennsylvania., June 17, J. N. Knull. *Paratypes* from same locality, also Sullivan Co., Pennsylvania, June 3, 1933 and Columbus, Ohio, Sept. 11, 1936, all collected by author.

* Contribution from Department of Zoology and Entomology.

This species should be placed after *D. cognatus* Br. according to Brown's key.[1]

Dalopius ohioensis n. sp. Fig. 2.

Male. Size and form of *D. allegheniensis;* shining dark brown, apical margin and sides of pronotum, scutellum, umbone, last three segments of abdomen, mouth parts and legs lighter brown.

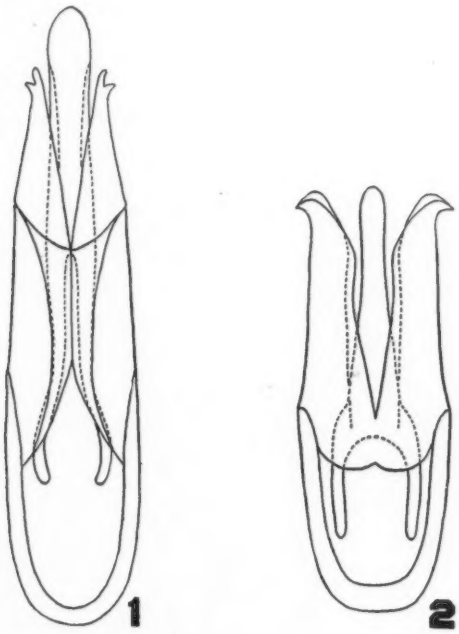


Fig. 1. *Dalopius allegheniensis* n. sp.
Fig. 2. *Dalopius ohioensis* n. sp.

Head densely, finely punctured; antennae extending over three segments beyond apices of hind angles of pronotum when

[1] W. J. Brown, 1934, Can. Ent. 66:35.

laid along side; second segment shorter than third, fourth segment nearly as long as second and third together, segments five to ten inclusive gradually decreasing in length, eleventh longer than tenth.

Pronotum and scutellum with proportions and sculpture similar to preceding. Elytra similar to preceding, apices emarginately truncate.

Length of aedeagus 1.2 mm.

Length, 8.1 mm.; width, 2.1 mm.

Holotype labeled Hocking Co., OHIO, May 26, 1938. *Paratypes* from same locality May 20, June 5–14, all collected by D. J. and J. N. Knull.

This species should be placed next to *D. vetulus* Br.

Unusual Larval Habitat of Ficalbia (Mimomyia) splendens (Theo.) and Aedomyia africana N.-L.

By LEWIS BERNER, Department of Biology, University of Florida

G. H. E. Hopkins, in his "Mosquitoes of the Ethiopian Region,"[1] states (p. 66) that *Ficalbia splendens* breeds "In clear water in borrow-pits, water-holes and the margins of swamps, invariably among *Pistia,* with which the association appears to be absolute." Of *Aedomyia africana,* he says (p. 89), "The constant feature of all breeding-places of this species is the presence of *Pistia.*"

During 1943 and 1944, these two species were found not only among *Pistia stratiotes,* as Hopkins states, but also in ponds covered with duckweed (*Lemna* sp.), where there was no *Pistia.* These collections were made at Sangalkam, Senegal, French West Africa and at Atima, a village near Accra, Gold Coast, British West Africa. The larvae were usually associated with *Anopheles funestus* Giles, *A. coustani ziemanni* Grunb., *Culex poicilipes* (Theo.), *Mansonioides africanus* (Theo.), *M. uniformis* (Theo.), and *Ficalbia pallida* (Edwards).

[1] British Museum (Natural History), 1936.

On the Gorytine Wasps of the West Indies (Hymenoptera: Sphecidae)

By V. S. L. Pate, Ithaca, New York

Five species of Gorytine wasps, distributed among three genera, occur in the West Indies. These are found only on one or more of the Greater Antilles; none are known as yet from any of the Leeward or Windward Islands.

In 1798 Fabricius described the first Antillean Gorytine as *Mellinus tristrigatus* from the "Insulae Americae meridionalis"; this is probably a *Psammaecius* of the subgenus *Hoplisoides*. A decade later Latreille recorded *Stizus Hogardii* from the island of Santo Domingo; this species is now referable to the nominate subgenus of *Sphecius*, and has been reported from Jamaica, Cuba, and the Bahama Islands as well as from Hispaniola. Finally in 1865, Cresson characterized two Cuban species: *Harpactus insularis* and *H. scitulus*, both of which are referable to *Psammaecius*. Handlirsch considers the latter identical with *tristrigatus* of Fabricius, but until more evidence is forthcoming than that adduced by Handlirsch, I prefer to regard Cresson's *scitulus* a valid species. Two additional new species, *Ochleroptera jamaica* and *Psammaecius alaya*, are described below.

Cuba, at present, has three known Gorytines: *Sphecius* (*Sphecius*) *hogardii* (Latr.), *Psammaecius* (*Hoplisoides*) *insularis* (Cresson), and *Psammaecius* (*Hoplisoides*) *scitulus* (Cresson). The cicada killer, *Sphecius hogardii* (Latr.), has been reported from the Bahama Islands. Hispaniola is known to harbour two species, *Sphecius hogardii* (Latr.) and *Psammaecius alaya*, described below. Jamaica, in addition to *Sphecius hogardii* (Latr.), now numbers *Ochleroptera jamaica*, described below, as a member of its fauna. Puerto Rico, smallest of the Greater Antilles, is known at present to harbour only a single Gorytine, *Psammaecius scitulus* (Cress.). When the wasp fauna of the Caribbees is more fully known, many of the islands, particularly Jamaica, Hispaniola, and Puerto Rico, as well as perhaps some of the Lesser Antilles, will be found to have a larger representation of Gorytines than is known at present.

Ochleroptera jamaica new species

The present species is closely related to the North American continental form, *bipunctata* (Say), but is distinguished from it by the strongly concave mesothoracic epipleura, the absence of a carinule bisecting the dorsal trigonal enclosure of the propodeum, the strongly and vertically striatopunctate lateral areas of the propodeum, and the very finely and sparsely punctate abdominal tergites and sternites.

Type.—♂; Morce's Gap, Blue Mountains, JAMAICA.* Elevation, 4,980 feet. July 21, 1923. (James A. G. Rehn; in mountain rain-forest.) [Academy of Natural Sciences of Philadelphia, Type no. 10603.]

Male. Length 5.25 mm. Fulgid black; the following eburneous: palpi, mandibles except red apices; clypeus except apical margin and a large obtrapeziform discal spot extending to dorsal margin; scape anteriorly with a stripe lengthwise; pronotum dorsally; pronotal tubercles; postscutellum; second abdominal tergite with a small, transverse, oval spot laterally on each side; fore tibiae with a stripe lengthwise on outer faces; middle and hind tibiae with small spots at base; all tarsi except for bases of all metatarsi and last segment which are brunneous; middle coxae with a large spot beneath. Tegulae and axillary sclerites black. Wings clear hyaline; veins and stigma very dark brunneous.

Head fulgid; clypeus and supraclypeal area to antennal sockets and a line along inner orbits with dense, appressed, silvery sericeous pile; remainder of head with a thin vestiture of appressed, silvery puberulent hair. Front with very fine and close setigerous punctures; bisected by a strong impression running down from anterior ocellus. Vertex and temples subpolite, with scattered fine setigerous punctures; ocelli in a very low broad triangle, the ocellocular line about three-eighths (0.385) the postocellar distance. Antennae situated toward middle of face, one-half the length of clypeus above its dorsal margin; scape

* *V.:* Shreve, F. A montane rain-forest: a contribution to the physiological plant geography of Jamaica. *Carnegie Inst. Washington, Publ. no. 199 (1914).*

cylindrical to obterete, about four-ninths (0.45) the vertical eye length; pedicel suborcate; flagellum simple, filiform to weakly clavate apically; relative lengths: scape 18; pedicel 6; flagellar segment one 8, two 6, three 6, four 6, five 7, six 7, seven 6.5, eight 6, nine 6, ten 7, eleven 9. Clypeus transversely subhexagonal, twice as broad as long, its median length nearly three-eighths (0.35) the vertical eye length; disc flat to very weakly tumid; abruptly inflexed preapically before the narrow, linear, flat, truncate apical flange.

Thorax with a very thin and inconspicuous clothing of short, decumbent, silvery hair throughout. Mesonotum simple, with fine, very widely separated, setigerous punctures; scutellum and postscutellum punctured like mesonotum. Mesopleura with fine separated punctures; epimera finely, horizontally striate; epipleura completely and deeply concave. Propodeum with trigonal dorsal enclosure strongly impressed, finely, radiately costulate on basal half but not bisected by a carinule, the apical half polite; remainder of dorsal and posterior faces and posterior half of lateral faces strongly, vertically striatopunctate; posterior face bisected by a deep furrow, and at base by a strong carinule forking above into a broad U-shaped one; lateral carinae present basally; lateral faces with anterior half subpolite.

Legs simple, normal for genus. Longer hind tibial calcar two-fifths the length of slender hind metatarsi.

Fore wing with radial cell narrow, elongate, lanceolate, apex acuminate, four times as long as wide; radius with abscissae: first 7, second 10, third 14, fourth 24; cubitus with abscissae: first 26, second 20, third 20; first recurrent vein received in apex of first submarginal cell just before first transverse cubital vein; second recurrent vein interstitial with second transverse cubital vein. Hind wing with cubitus arising three times the length of the short, straight, perpendicular transverse median vein beyond that vein.

Abdomen fulgid; with a very thin vestiture of fine, short, decumbent silvery hair throughout. First segment petioliform, subnodose at apex. First two tergites with very fine, separated setigerous acupunctures; remaining tergites finely but more dis-

tinctly punctate; sixth with a transverse, subsemicircular pygidial area, the disc more distinctly punctate than preceding tergite. Sternites shining, with scattered, sparse, fine punctures.

This Jamaican species is known only from the unique male described above.

Psammaecius (Hoplisoides) alaya[1] new species

This Hispaniolan species is closely related to the Cuban *scitulus* but may be distinguished from the latter by its larger size, ivory white maculations, immaculate propodeum, and the dark brunneous costa and stigma of the fore wings.

Type.—♂; SAN DOMINGO. (No other data.[2]) [Academy of Natural Sciences of Philadelphia, Type no. 10604.]

Male. Length 7.5 mm. Black; the following eburneous: clypeus dorsally; inner orbits with a narrow line; scapes with spot at base and apex; pronotum dorsally; pronotal tubercles with a spot; prepectus with a large spot behind tubercles; scutellum with a broad transverse stripe on posterior half; first, second and fourth abdominal tergites with a narrow apical fascia; second sternite laterally with an elongate, transverse spot on each side; fore and middle tibiae with a stripe lengthwise on outer faces; middle metatarsi. Fore and hind tarsi dark fulvous. Tegulae and axillary sclerites dark brunneous. Fore wings with anterior half deeply infumated, particularly in marginal, submarginal, first discoidal, and apex of median cell; remainder of wings only weakly tinted; veins and stigma concolorous, dark brunneous.

Head subfulgid; with a moderate vestiture of appressed silvery hair throughout; impunctate save for a few scattered punctures on front and disc of clypeus. Eyes moderately convergent toward clypeus; front bisected by a weak groove from anterior ocellus. Ocellocular line two-thirds the postocellar distance; occipital carina strongly flanged, almost attaining the flanged hypostomal carinule bordering the broad, shallow, subtrigonal

[1] After the Alaya, who formerly inhabited Hispaniola.

[2] This material was probably collected by M. Abbott Frazar in or about Sanchez in the Samaná District of the Dominican Republic.

oral fossa. Antennae situated a little above the dorsal margin of clypeus; scapes thick, subcylindrical, one-half the vertical eye length; pedicel suborcate; flagellum simple, gently clavate apically, none of segments emarginate or dentate beneath; relative lengths: scape 10; pedicel 2; flagellar segment one 5, two 4, three 3, four 3, nine 3, ten 3, eleven 5. Clypeus irregularly transversely subhexagonal, twice as broad as long, the median length two-fifths the vertical eye length; disc gently tumid; with a weak, truncate apical flange; lateral angles without hair pencils.

Thorax polite, impunctate; with a thin clothing of appressed silvery hair throughout. Suture between mesonotum and scutellum strongly foveolate; mesosternum strongly carinate for entire width. Propodeum with vestiture similar to thorax; dorsal face with trigonal enclosure defined by weak impressed lines, the apex ending in a small but strong fovea, bisected by a narrow marginate groove, laterad of which on each side are three well separated short carinules running for only one-third of the enclosure, the remainder polite; remainder of dorsal and posterior faces with very few, widely scattered, fine punctures; posterior face with a strong carinule curving up on each side from just above hind coxae, bisected by a weak carinule, the supravalvular area weakly, irregularly costulate; lateral faces polite, impunctate.

Legs simple, unmodified. Middle and hind tibiae very weakly spinose. Longer calcar of hind tibiae one-half length of hind metatarsi.

Abdomen perfulgid; sessile; with a very fine and inconspicuous clothing of short, decumbent silvery hair. Tergites very sparsely and weakly punctate: the first two very finely, the third to fifth more strongly, the sixth almost coarsely; seventh completely obtect. Sternites polite, with a few fine, scattered, moderate punctures; fifth and sixth with concealed hair brushes basally.

Allotype.—♀; Topotypical; same data as type.

Female. Length 8 mm. Agrees with the male (type) except as follows:

Livery essentially the same, but maculations as follows: clypeus entirely; inner orbital stripe broader, wider; prepectus almost entirely; abdominal fasciae wider; stripes on fore and middle tibiae larger; hind tibiae with a large elongate subbasal spot; fore and middle femora with a large ovate spot apically beneath; mesosternal prongs with a small spot; middle coxae with a small spot beneath at apex.

Head as in male but eyes not as strongly convergent toward clypeus. Ocellocular line five-eighths the postocellar distance. Antennal scapes about five-ninths (0.56) the vertical eye length; relative lengths: scape 13; pedicel 3; flagellar segment one 6, two 4, three 3.5, four 3.5, eight 3, nine 3, ten 4. Clypeus shorter and more subrectangular, median length about four-tenths (0.43) the vertical eye length, and twice as broad as long.

Thorax and propodeum essentially the same but posterior face of latter more strongly wrinkled than male.

Abdomen with first two tergites almost impunctate, the following tergites more finely and sparsely punctate than male. Sixth tergite with an elongate trigonal pygidial area, the disc polite, with scattered coarse punctures.

Paratypes.—In addition to the types, I have examined five males and sixteen females, all topotypic. These agree with the types in all essential features of livery and structure.

Personal

Ezra T. Cresson, Jr., the well-known dipterist, long Associate Editor of "Entomological News," and for many years Associate Curator of Insects at the Academy of Natural Sciences of Philadelphia, resigned the latter post as of July first of the present year. Having served the Academy as a member of the staff of his department for thirty-nine years, Mr. Cresson intends to continue his studies free of the responsibilities of broader curatorial work. In recognition of his studies and their value to the institution, he has been appointed to the honorary post of Research Fellow of the Academy by its Board of Trustees.

Notes on the Type Locality of Speyeria egleis secreta dos Passos and Grey

By P. S. Remington, Jr., St. Louis, Missouri

In the "American Museum Novitates," Number 1297, entitled "A New Species and Some New Subspecies of Speyeria," by C. F. dos Passos and L. P. Grey, a new subspecies of *Speyeria montivaga* (since dropped for *egleis*), named *secreta* is described. The type material is described as follows: "The holotype male and the allotype female are from Rocky Mountain National Park, Colorado, 8000 feet, July 1942, collected by Roy Wiest in the Estes Park area." Students of Lepidoptera who are interested in collecting rare species in type localities should know that the subspecies *secreta,* which is a perfectly recognizable race, is a Western slope race and is not really found in the Estes Park area. Additional records of the occurrence of this subspecies establish this fact clearly and a correction of the type locality named above as "in the Estes Park area" should be made.

On August 11, 1946 the writer, in company with Dr. Roy Wiest and Donald Eff, visited the ravine where the type series was caught. This spot is at least twenty-five miles from the Estes Park area and is across the Continental Divide, which cuts through the middle of Rocky Mountain National Park. One proceeds from Estes Park by way of either the Trail Ridge Road or the older Fall River Road over the Divide at a height of more than 12,000 feet. The road then drops down about 2,000 feet to Poudre Lakes and on to the headwaters of the Colorado River. A short distance beyond Poudre Lakes, a small ravine angles off to the left of the road and this is the spot where Dr. Wiest told us he found *secreta.* None were flying that day, probably because *secreta* flies earlier in the year. The only *Speyeria* we saw was *S. mormonia eurynome.*

If *secreta* is living and breeding in the canyons on the west slope of the Divide and westward, it is easy to see for one who has made the trip as we did, that the insect would have difficulty

crossing miles of windswept tundra uncongenial to it along the Trail Ridge to establish itself on the east slope. It is extremely doubtful whether it will ever be found on the east slope. Corroborative evidence of this view is now available. In February, 1946, the writer sent several hundred *Speyeria* to L. P. Grey for determination. These were nearly all collected by the author and his son during the past ten years mainly in the Rocky Mountain area from Pike's Peak and Hall Valley on the south up through Mt. Evans, Rocky Mountain National Park, the Snowy Range and the Tetons in Wyoming to Bozeman, Montana, north of Yellowstone. In all this mass of material there were three specimens of *secreta* collected by P. S. and C. L. Remington in the Routt National Forest on July 5, 1941, about fifty miles west of Rocky Mountain National Park. These specimens were obtained in ravines similar to the type locality at an altitude of about 9,000 feet. One ravine was in Rabbit Ears Pass and another in Muddy Pass as one descends toward Steamboat Springs. The evidence strongly suggests that *secreta,* well named, is a very uncommon race of *egleis* living in rather hidden ravines west of the Continental Divide at altitudes of eight to ten thousand feet in the Continental Plateau As dos Passos and Grey state, it can be easily overlooked among specimens of *hesperis,* but is fully distinct to the expert eye.

The importance of correctly locating type localities is well known to the serious student of biology and much difficulty has arisen through carelessness in this matter. In 1924 the author and W. J. Clench of the Museum of Comparative Zoology at Harvard spent three months attempting to locate type localities in which J. G. Anthony collected in 1853 and it was by no means easy to find many of these localities, due to inadequate data on labels and in the original descriptions. In order to be of value to future students and collectors, every specimen collected and preserved should be accurately labelled with exact locality so that anyone in the future can find that spot. Also the date of capture and ecologic data should be provided, if possible. This makes simpler the problems of taxonomists and ecologists in all branches of biology.

The Appearance of Two Species of Exotic Cockroaches in Center County, Pennsylvania

By VERNON R. HABER, Pennsylvania State College

In mid-October 1944, the author was called to control cockroaches in an apartment in State College, Pa. Upon investigation it was found that the pests were brown-banded cockroaches, *Supella supellectilium* (Serville), a tropical species of wide dispersal, and until rather recently regarded as of more common southern distribution.

On May 10, 1946, Mr. Lewis Stannard, then a senior student in the Pennsylvania State College, Department of Zoology and Entomology, captured an adult male cockroach of the same species in an upland sphagnum-bog region adjacent to, if not in Center County, Pennsylvania. It was found far from buildings of any kind, apparently wild. Since this species is regarded as tropical and, if found in the north, it is usually taken from houses, one is inclined to believe that the specimen may have dropped from a picnic basket of a visitor to that region, or perhaps it dropped from a passing airplane.

During the recent Christmas season, a cockroach taken from a shipment of tropical fruit sent into State College from Florida was submitted to me for identification. It is an adult female Australian cockroach, *Periplaneta australasiae* (Fabricius).

I believe that all three of the foregoing are the first published records of the appearance of these species in central Pennsylvania.

Observations on the Mating of Ficalbia (Mimomyia) splendens (Theo.)

By LEWIS BERNER, Department of Biology, University of Florida

At Sangalkam, three miles north of Rufisque, Senegal, French West Africa, *Ficalbia* (*Mimomyia*) *splendens* (Theo.) adults were observed in the act of mating on several occasions during

May, 1943. The mosquitoes were breeding along the quiet edge of a stagnant channel where water lettuce, *Pistia stratiotes,* was growing in small clumps. Also present in this situation with the larvae of *F. splendens,* were larvae of *Aedomyia africana* N.-L., *Culex poicilipes* (Theo.), and *Anopheles funestus* Giles. Adults were first noted while larval collections were being made. As the water lettuce was disturbed, the small mosquitoes flew up from the water giving the appearance of having just emerged. A more detailed examination revealed that the mosquitoes were fully mature and that numbers of them were resting in the strong rays of direct sunlight on the upper side of the *Pistia* leaves as well as on the shaded undersurface, not more than one-half to one inch above the water. When the mosquitoes were disturbed, they flew upwards to a maximum of six inches above the plants and then immediately descended to rest again on the leaves of the plants. The habit of resting in bright sunlight is not common among mosquitoes, most species normally preferring dark hiding places.

Copulation was first noted about three o'clock in the afternoon, while the adult mosquitoes were being collected with a suction tube. At this time, a pair of *Ficalbia splendens* was seen coupled in flight at a height of about three or four inches above the water lettuce. The coupling continued for only a few moments. A number of *F. splendens* were noted pairing at about the same level above the water plants.

Notes on Tanypteryx hageni

The NEWS is indebted to Dr. James G. Needham for the following extracts from a letter written by Mrs. Ruth Cooper Whitney of Portland, Oregon. The extracts comprise recent observations made by her on the habits of the rare and primitive dragonfly *Tanypteryx hageni* and also report a diligent search made by her for its unknown nymph, with useful hints to other collectors who may try to discover its whereabouts. They end with the question, Where?

"On July 28th, a clear and sunny Sunday, a number of *Tanypteryx* were to be seen in mating and feeding flights above the cat-tail swale at Swim. They seemed to be taking off from a 'home base' on the warm sunny rocks that dotted the wet muddy trailway beside a white-painted post. Quite often one or more of them alighted on the sunny side of the post, and let me come close (within a foot or so) to examine them, when I did not have my net with me! One or two sat flattened down on the low rocks with wings and legs widely outspread."

"When they did take off, the flight was low, uneven, and much like that of a cabbage butterfly, only swifter. A height of perhaps twenty feet would be gained, and then the wing-flapping became gliding. The circling went beyond the cat-tail swale. One *Tanypteryx* was seen a distance up the road beyond the picnic tables; but the 'home base' seemed to be always back at the Tom-Dick post."

"I searched the swift little streamlets near the swale for nymphs but found not a sign of one. I also dug into rotton and damp logs; scraped the slimy bottom of the swimming tank, and I almost did the cat-tails one by one, finding nothing but damselfly (*Argia*) skins. Where are the *Tanypteryx* nymphs?"

RUTH COOPER WHITNEY

Notice

The NEWS was shocked to learn of the disappearance of **Dr. Vernon R. Haber** of State College, Pennsylvania. Dr. Haber is an associate professor at Pennsylvania State College and has been an occasional contributor to "Entomological News." He disappeared on the morning of June 3rd on his way to his office, therefore his family, physician and others believe him a victim of amnesia. They are employing every means, including the offer of a large reward, that might lead to his recovery. By this notice, we hope to enlist the help of his fellow entomologists also. Dr. Haber is 59 years of age (looks more like 50), is 5 feet, 6 inches tall, weighs 135 pounds, has brown eyes, gray hair worn in a short pompadour and a receding hair line. He ordinarily carries a hand lens in a black case.

Notes and News in Entomology

Under this heading we present, from time to time, notes, news, and comments. Contributions from readers are earnestly solicited and will be acknowledged when used.

The eighth **International Congress of Entomology** will be held in Stockholm, Sweden, August 8–15, 1948. The fact that all steamship sailings are currently booked to capacity for months in advance makes it seem necessary for those expecting to attend the congress in 1948 to arrange for passage as early as possible. Steamship companies have not issued sailing lists for 1948, but expect to do so in the early fall. A number of lines have listed sailings for the present season, among them, the Cunard, French, Belgian, Swedish, Norwegian, Gdynia (Polish), Holland-American, etc., the first mentioned expecting soon to have two new steamers in service. It is understood that the Thirteenth International Congress of Zoology will be held in Paris some time in July, 1948, and it is hoped that all entomologists going to Stockholm will plan to attend the Zoological Congress also in order that the interests of the entomologists may be fully represented before the more comprehensive

body. Should a sufficient number of individuals indicate that they expect to sail about mid June, it may be feasible to engage passage on the same steamer. Early information as to the probable number of participants is especially desired in order that the housing committee in Stockholm may make the necessary arrangements. The undersigned, as member of the executive committee, would appreciate it if he be kept informed as early as possible as to plans of those expecting to attend the sessions.

O. A. JOHANNSEN,
Comstock Hall, C. U.,
Ithaca, N. Y. June, 1947.

A letter just received from **Dr. Otto Kröber,** well known dipterist of Hamburg, Germany, states that of the rich insect collection at the Zoologisches Museum und Institut in Hamburg, not a single specimen was saved, and not one of the types. Likewise, his own special collection, which was particularly rich in types and material of Tabanidae and Conopidae, and which was stored in the Museum, was entirely destroyed, together with all of his literature and manuscripts. This news differs from previous reports that types were saved even though the museum building and display collections were destroyed.—C. W. SABROSKY.

Current Entomological Literature

COMPILED BY EDWIN T. MOUL, RAYMOND Q. BLISS, CHARLES HODGE IV, MAURICE E. PHILLIPS, JOHN W. H. REHN AND HENRY K. TOWNES, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the current or preceding year unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of periodicals and serials published in our January and June issues. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

GENERAL—Alicata, J. E.—Parasites and parasitic diseases of domestic animals in the Hawaiian Islands. [Pacific Science, Honolulu] 1: 69–84. **Brues, C. T.**—Contributions of entomology to theoretical biology. [81] 64: 123–34, ill. **Cole, A. C., Jr.**—Illustrated keys to the immature forms (exclusive of eggs, nymphs, and pupae) of the more common orders and families of Tennessee insects. [47] 22: 28–44, ill. **Corona, L. T.**—Algunos insectos enemigos del aguacate en las zonas productoras de Queretaro, Guanajuato y Tamaulipas. [Fitofilo, Mexico] 4: 352–63, ill. **Duncan, C. D.**—Some remarks on the influence of insects on human welfare. [60] 23: 1–10. **Proverbs and Morrison**—Relative insecticidal activities of DDT and related organic molecules. [24] 25: 12–44. **Starkey, G. S.**—A method of preparing permanent slides of mosquito larvae and other arthropods in a tropical or semi-tropical climate. [W. Va. Univ. Bull.] 47: 25–26.

ANATOMY, PHYSIOLOGY, MEDICAL—Chauvin, R.—Contribution à l'étude physiologique du criquet pelerin et du determinisme des phenomenes gregaires. [107] 110: 133–272, ill.; Sur le phototropisme des orthoptères. [108] 46: 150–54. 1941. **Deschamps, P.**—Sur la digestion du bois par les larves de Cerambycides. [108] 49: 104–08, ill. **Hudson, G. B.**—Studies in the comparative anatomy and systemic importance of the hexapod tentorium. II. Dermaptera, Embioptera and Isoptera. [Jour. Ent. Soc. S. Africa, Pretoria] 9: 99–110, ill. **Lhoste, J.**—Aperçu anatomique et histologique du tube digestif de Forficula auricularia L. [108] 46: 43–46, ill. **Marshall, W. S.**—The labral sense organs of the red-legged grasshopper, Melanoplus femur-rubrum. [Trans. Wisc. Acad. Sci., Arts and Letters, Madison] 37: 137–48; The rectal glands of mosquitoes. [ibid.] 37: 149–55, ill. **McCoy E. E.**—Elimination of a microsporidian parasite in the mass rearing of Macrocentrus ancylivorous. [45] 55: 51–55. **Millot, J.**—L'anatomie interne des Ricinulei (Arachnides). [Annal. des Sciences Naturelles, Paris] 7: 1–29. **Paulian, R.**—Observations biologiques et anatomiques sur Agyrtes bicolor Lap. [108] 50: 12–16, ill. 1945. **Roonwal, M. L.**—Variation and structure of the eyes in the desert locust, Schistocerca gregaria (Forskal). [Proc. Royal Soc., Ser. B] 134: 245–72, ill. **Siang-Hsu, W.**—On the cytoplasmic elements in the midgut epithelium of the larvae of Drosophila melanogaster. [44] 80: 161–93, ill. **Sotavalta, O.**—Some studies on the

flying tones of insects and the determination of the frequency of the wing strokes. [Suomen Hyonteistieteellinen Aikakauskirja, Fennici] 7: 32–52. **Tragardh, I.**—Contributions toward the comparative morphology of the Mesostigmata (Acarina). Praesternal hairs and the male genital aperture. [Entom. Tidskrift, Stockholm] 3: 88–108. 1946. **Verrier, M. L.**—Rémarques sur les yeux de la Squille (Squilla mantis L.) (Crustacea). [108] 46: 6–9, ill. **Wigglesworth, V. B.**—The epicuticle in an insect, Rhodnius prolixus (Hemiptera). [Proc. Royal Soc., Ser. B] 134: 163–81, ill. **Wilkes, A.**—The effects of selective breeding on the laboratory propagation of insect parasites. [Proc. Royal Soc., Ser. B] 134: 227–45. **Wilson, L. P.**—Tolerance of larvae of Drosophila for amino acids: methionine, cystine and cysteine. [Growth] 10: 361–73. **Wulff and Jahn**—The electroretinogram of Cynomya. [45] 55: 65–83.

ARACHNIDA AND MYRIOPODA—Chamberlin, R. V.—Seven new American millipeds. [63] 60: 9–16, ill.; On four new American chilopods. [60] 23: 37–39, ill. **Gertsch, W. J.**—Spiders that lasso their prey. [56] 56: 152–58, ill. **Goodnight, C. J. and M. L.**—An example of subspeciation in the Phalangida. [45] 55: 35–42; ill. (S.). **Hoff, C.**—New species of diplosphyronid pseudoscorpions from Australia. [73] 54: 36–56, ill. (*). **Millot, J.**—(See under Anatomy.) **Strandtmann, R. W.**—Atricholaelaps megaventralis, a new species of parasitic mite (Laelaptidae). [65] 49: 112–14, ill. **Tragardh, I.**—Acarina. (See under Anatomy.)

SMALLER ORDERS—Banks, N.—Some neropterous insects from Szechwan, China. [Fieldiana-Zoology, Chicago] 31: 97–107, ill. **Berger, B. G.**—How to recognize and control termites in Illinois. [Ill. Nat. Hist. Survey, Urbana] Circular 41: 1–44, ill. **Carriker, M. A., Jr.**—Studies in neotropical mallophaga (ix); Amblycera of the new world Galliformes, Part I, The genus Menacanthus. [76] 7: 115–37, ill. (*). **Paclt, J.**—Short observations on the nomenclature of some generic names in Collembola. [Notulae Entomologicae, Helsinki] 26: 82–85. **Traub, R.**—A new species of flea of the genus Opisodasys from Mexico. [48] 37: 134–39, ill. **Valle, K. J.**—A small list of Odonata from U. S. A. [Suomen Hyonteistieteellinen Aikakauskirja, Fennica] 8: 163–66, ill.

ORTHOPTERA—Chauvin R.—(See under Anatomy.) **Marshall, W. S.**—(See under Anatomy.) **Ramme, W.**—

Beiträge zur Kenntnis der palaearktischen Orthopterenfauna. (Teffig. u. Acrid.) III. [Mitteilungen aus dem Zoologischen Mus., Berlin] 24: 41–150, ill. (*). **Rehn, J. A. G.**—Notes on the phasmid genus Isagoras, with the description of six new species. [62] 99: 1–19, ill. (*). **Roonwal, M. L.**—(See under Anatomy.)

HEMIPTERA—Jeannel, R.—Nouveaux Henicocephalides sudamericains. [108] 48: 125–28, ill., 1943. **Knowlton, G. F.**—A small sage aphid. [60] 23: 35–36. **Oman, P. W.**—Types of auchenorrhynchous homoptera in the Iowa State College. [34] 21: 161–228, ill.; Miscellaneous notes on Cicadellidae. [45] 55: 59–63. **Ruckes, H.**—Notes and keys on the genus Brochymena (Pentatomidae). [27] 26: 143–238, ill. (k). **Tuthill, L. D.**—New species of the genus Triozoida (Psyllidae). [60] 23: 31–34. **Villiers, A.**—Note sur deux Reduvides Africano-bresilieus constituant une nouvelle sous-famille. [108] 49: 79–83, ill. (k*). 1944. **Wigglesworth, V. B.**—(See under Anatomy.)

LEPIDOPTERA—D'Andretta e Travassos Filho—Romual-disca dalmeidai n.g., n.sp. de Ctenuchidae. [Livro de homenagem a R. F. d'Almeida] 3: 17–40, ill. **Maria, H. A.**—Algo sobre esfingidos colombianos. [76] 7: 53–57, ill. **McCoy, E. E.**—(See under Anatomy.) **Paskevsky,** V.—Formes nouvelles et rares d'agrias de la collection de Mme. G. Fournier (nymphalids). [108] 45: 93–100, ill. (S). 1940. **Rawson, G. W.**—Moths congregating around the nest of Polistes wasps. [45] 55: 42. **Rindge, F. H.**—Designation and distribution of types of Nepticula braunella (nepticulidae). [60] 23: 25. **Rosseau-Decelle, G.**—Notes sur quelques formes nouvelles de Papilio americains. [108] 48: 109–13. 1943. **Tilden, J. W.**—An occurrence of the pupa of Glaucopsyche lygdamus behrii in an ant nest (Lycaenidae). [60] 23: 42–43. **Wind and Clench**—The genus Callictita. [73] 54: 57–61 (*).

DIPTERA—Abbott, C. E.—Distribution of malarial vectors. [100] 25: 82–83; The eggs of mosquitoes. [100] 25: 98–99. **Bailey, N. S.**—Field notes on Tabanus nigrovittatus. [73] 62–64. **Baisas, F. E.**—Notes on Philippine mosquitoes. XI. New species of Tripteroides. [Fieldiana. Zoology, Chicago] 31: 121–124, ill. **Champlain, A. B.**—Bird-flies. [Pa. Game News] 18: 17, ill. **Fluke and Hall**—The Cartosyrphus flies of N. Amer. (Syrphidae). [Trans. Wisc. Acad. Sci., Arts and Letters, Madison] 37: 221–63, ill (k*). **Galindo, P.**—Anopheles xelajuensis De Leon, a

new addition to the known Anopheline fauna of Panama. [60] 23: 44. **Huckett, H. C.**—The N. A. sp. of the subgenus Botanophila, Genus Hylemyia sens. lat. (Mus.). [45] 55: 1–33, ill. (k*). **King and Hoogstraal**—New Guinea species of mosquitoes of the genus Aedes, subgenus Aedes. [48] 37: 113–34, ill. (k*). **Lane, J.**—The larva, pupa and adults of Wyeomyia melanopus (Culicidae). [65] 49: 97–101, ill. **Marshall, W. S.**—(See under Anatomy.) **McSwain and Bohart**—Some records of parasitism of solitary bees by Conopid flies. [60] 23: 30. **Penn, G. H.**—The larva of Aedes (Leptosomatomyia) aurimargo (Culicidae). [65] 49: 103–05, ill. **Rapp, W. F., Jr.**—The Pipunculidae of Quebec. [Canadian Field Naturalist, Ottawa] 60: 105. **Siang-Hsu, W.**—(See under Anatomy.) **Venturi, F.**—Studio biologico del genere Cerodonta Rond. [106] 31: 191–226, ill. **Venturi, F.**—(See under Anatomy.) **Wilson, L. P.**—(See under Anatomy.) **Wulff and Jahn**—(See under Anatomy.)

COLEOPTERA—Blackaller, A.—El mayate del tomate de Cascura [Fitofilo, Mexico]. 4: 364–70, ill. **Chamberlain, K. F.**—Notes on the ecology of Hydroporus rufiplanulus (Dytisc.). [45] 55: 57–58. **Deschamps, P.**—(See under Anatomy.) **Dethlefsen, E. S.**—Notes on some Coleoptera taken from wet paint. [60] 23: 36. **Lotte, F.**—Une Psiloptera nouvelle du Bresil. [108] 45: 59–60, ill. 1940. **Maria, H. A.**—Catalogo sistematico, sinonimico y geografico de los insectos del genero Carabus (latu sensu) que figuran en la coleccion del Museo del Instituto de la Salle. [76] 7: 57–62, ill. **Mansfield, G. S.**—Notes on Hippomelas californicus (Horn) and Chrysobothris cyanella (Buprestidae). [60] 23: 40–42; Northward range extension of Oeme gracilis (Cerambycidae). [60] 23: 43. **Mansfield and Tilden**—An additional locality for Aulicus terrestris (Cleridae). [60] 23: 34. **Paulian, R.**—Coleoptères Scarabaeidae nouveaux. [108] 47: 58–61, ill. 1942. **Paulian, R.**—(See under Anatomy.) **Ritcher, P. O.**—Description of the larva of Pleocoma hirticollis Vandykei (Scarabaeidae). [60] 23: 11–20, ill. **Ulke, T.**—A new genus and species of Curculionidae in Baltic Amber. [109] 193: 1–7, ill.

HYMENOPTERA—Banks, N.—Synopsis of west coast Cerceridae. [73] 54: 1–35, ill. (k*). **Benoist, R.**—Les hymenoptères qui habitent les tiges de Rouce aux environs de Quito (Equateur). [107] 111: 75–90 (*). 1942. **Cockerell, T. D. A.**—A new genus of bees from Honduras (An-

thidiinae). [65] 49: 106. **Enzmann, J.**—Hercynia a new genus of myrmicine ants. [45] 55: 43–47 (S). **McCoy, E. E.**—(See under Anatomy.) **McSwain and Bohart**—(See under Diptera.) **Michener, C. D.**—Some observations on Lasioglossum (Hemihalictus lustrans (Halictid). [45] 55: 49–50. **Muesebeck, C. F. W.**—Two new species of Apanteles from California (Branconidae). [60] 23: 21–24. **Pate, V. S. L.**—A new genus and species of nocturnal wasps (Mutillidae: Chyphotini). [109] 192: 1–4, ill.; New pemphilidine wasps, with notes on previously described forms: III. [104] 109: 1–6; On Williamsita, a genus of wasps from New Caledonia (Pemphilidini). [65] 49: 107–12 (*). **Rawson, G. W.**—(See under Lepidoptera.) **Smith, M. R.**—A new species of Megalomyrmex from Barro Colorado Island, Canal Zone (Formicidae). [65] 49: 101–3. **Tilden, J. W.**—(See under Lepidoptera.) **Timberlake, P. H.**—Two new species of bees from Arizona (Aphoidea). [60] 23: 26–30, ill. (k*).

Three New Entomological Serials

On April 1, 1946, appeared the first number of a new serial, **THE COLEOPTERISTS' BULLETIN.** This is a mimeoprinted journal published by the Sherwood Press of Dryden, New York, under the editorship of Ross H. Arnett, Jr. The purpose of the Bulletin is "to provide closer cooperation among the various workers on Coleoptera by publishing a list of current workers and their specific interests and desires." In addition, "ecological and collecting notes, news items, short reviews, and notices of location of collections and types" will be featured. The first issue contains an annotated list of approximately fifty American Coleopterists and two interesting short articles: one on collecting beetles in the Adirondacks by Henry Dietrich; another by B. D. Valentine on Bougainville Coleoptera. The yearly subscription (10 issues) is $1.00, or 15 cents a single copy.

In February 1946, the Sherwood Press issued the first number of another serial publication: **SYSTEMA NATURAE.** This is also mimeoprinted, and appears at irregular intervals. Each number contains a review or conspectus of some group of in-

sects: keys to most of the world genera, brief accounts of the group, its range, the number of species, and frequently bibliographic references to the original description, and the genotypes are given. To date the following eight numbers have appeared: No. 1—The Family Culicidae, 4 pp. (Feb. 1946). No. 1, Supplement—Keys to the Genera of Culicidae, 7 pp. (March 1946). No. 2—The Family Cicindelidae, 7 pp. (March 1946). No. 3—The Order Coleoptera, Part I: A Key to the Families of the World; A Phylogenic List of the Families, 21 pp. (July 1946). No. 4—The Order Coleoptera, Part II: Number of species, range, catalogue & monographs; Recent phylogenic studies, pp. 22–32 (August 1946). No. 5—The Family Histeridae, Part I, pp. [i +] pp. 33–40 (Jan. 1947). No. 5a—The Family Histeridae, Part II, pp. 41–43 (Feb. 1947). No. 6—The Family Silphidae, pp. 44–50 (March 1947). All of these contributions are signed by Ross H. Arnett, Jr. The last number contains a notice stating that suitable manuscripts by others will be published in this series, and that all correspondence be addressed to the publishers, The Sherwood Press, Box 84, Dryden, N. Y.

During May there appeared the first issue of another new serial, **THE LEPIDOPTERISTS' NEWS,** the monthly newsletter of the Lepidopterists' Society, edited by C. L. Remington and H. K. Clench, P.O. Box 104, Cambridge 38, Massachusetts. It consists of 12 mimeographed pages and contains a number of features that are planned to appear regularly. On page 3 is a review of Ford's book on butterflies which is followed by four pages of references with brief notes on recent papers of interest to lepidopterists. Then follow miscellaneous notes and a biography (of W. H. Edwards), some notes on life-history studies, on collecting trips by members and a page of exchange notices by members. The aim of the Society is to promote the sound and progressive study of Lepidoptera. Dues for membership, including subscription to Lepidopterists' News for 1947 are $1.00.

The ENTOMOLOGICAL NEWS extends a cordial welcome to the Sherwood Press and its editor, Mr. Arnett; and to Messers Remington and Clench and wishes them all success in their new ventures.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Wanted—Oriental Cerambycidae and Chrysomelidae for determination and research purposes: China, India, Philippines, Pacific. Will purchase from China, Assam, Burma, Siam, Formosa. Will exchange identified Chinese insects. J. Linsley Gressitt, Lingnan University, Canton, China.

Wanted—Papers on Cicindelidae of any part of the world, especially South America and Pacific. R. G. Dahl, 3225 Grand Ave., Apt. 13, Oakland 10, Cal.

Chrysididae—Wanted for determination in preparation of revision. Wm. G. Bodenstein, Galesville, Maryland.

Coccinelidae—Wanted from other localities. Will buy or exchange for misc. So. Cal. coleops. F. W. Furry, 1633 Virginia Ave., Glendale 2, Cal.

Wanted—Ataenius and allied Aphodiinae from all parts of the world, especially Mexico, Central and South America. O. L. Cartwright, Clemson, S. C.

Wanted—Reprints and unpublished mss. on biological control of mosquitoes; for preparing annotated bibliographies for publication. J. B. Gerberich, Michigan State College, East Lansing, Mich.

Wanted—Hesperid genus Megathymus for exchange or purchase. P. S. Remington, 5570 Etzel Ave., St. Louis 12, Missouri.

Wanted—Psychodidae of North America for revisional purposes. Wm. F. Rapp, Jr., 203 Harker Hall, Urbana, Ill.

Diptera—Tachinidae-Dexiidae wanted, No. Amer. and exotic. Will collect most orders in exchange or will purchase. P. H. Arnaud, 60 Woodrow St., Redwood City, Calif.

Will collect—Zoological and entomological specimens in tropical and subtropical parts of Peru. Jose M. Schunke, Pucallpa, Peru.

Wanted—Diplotaxis; will buy or exchange. E. W. Mange, 307 W. Walnut St., Hanover, Pa.

Hymenoptera-Aculeata (except ants and bees) for exchange. Will collect other orders in exchange. N. F. de Andrade, Casal Novo, S. João do Estoril, Portugal.

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